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AUTHOR Stephenson-Miles, Belinda
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ABSTRACT

At LaGuardia Community College, students enrolled in the cooperative education (Co-Op Ed) program are required to complete three internships and concurrent seminars as a requirement for graduation. The seminar curriculum provides a theoretical framework for analyzing and evaluating the students' internship experiences. The seminars also serve as a suitable place to improve students' critical thinking skills and writing abilities. Students are required to keep weekly logs to record the facts learned, activities engaged in, and incidents observed at the internship site. They are also required to critically analyze each of the items listed in their logs using Bloom's taxonomy as a guide. Infusion of critical thinking methods into the internship experience requires the following: (1) developing a statement of philosophy that identifies the strategies and methodologies that will be used; (2) taking the class situation into consideration when planning the curriculum; (3) identifying the target population; (4) creating course objectives; (5) preparing activities that arouse all cognitive levels, build on experiences, promote use of evidence, and link thinking with language; (6) developing evaluation instruments; (7) selecting materials to assist students at each developmental stage; (8) sharing and exchanging ideas and insights with human resources; (9) setting a realistic time frame for achieving goals; and (10) keeping notes and records on program successes and areas of improvement. Sample essay guides, as well as a sample log and worksheet, are appended. (WJT)

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COMPOSITION AND CRITICAL THINKING THROUGH COOPERATIVE EDUCATION

by

**Belinda Stephenson-Miles, Instructor
LaGuardia Community College/CUNY**

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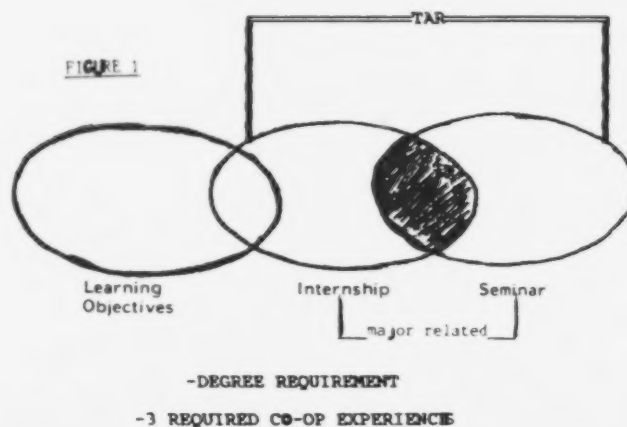
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THOSE OF YOU WHO HAVE ATTENDED PREVIOUS CEA CONFERENCES MAY BE TO SOME EXTENT FAMILIAR WITH THE COURSEWORK RELATED TO THE COOPERATIVE EDUCATION (CO-OP ED) INTERNSHIPS AT LAGUARDIA COMMUNITY COLLEGE. FOR A BRIEF REFRESHER... AND FOR THOSE OF YOU NOT HERETOFORE ACQUAINTED WITH OUR PRACTICES, ALLOW ME TO BRIEFLY ENLIGHTEN YOU AT THIS TIME.

FIRST OF ALL, OUR INTERNSHIP RELATED COURSES ARE REFERRED TO AS SEMINARS AND ARE CONCURRENT COURSES THAT STUDENTS ARE REGISTERED FOR ALONG WITH AN INTERNSHIP. EACH OF OUR FULL-TIME STUDENTS IS REQUIRED TO COMPLETE THREE OF THESE INTERNSHIPS AND CONCURRENT SEMINARS AS A REQUIREMENT FOR GRADUATION. OUR CO-OP ED INTERNSHIP PROGRAM IS DESIGNED SO THAT THE WORK EXPERIENCE IN WHICH STUDENTS PARTICIPATE RELATES TO THEIR MAJOR AREA OF STUDY AND IS ACCOMPANIED BY SPECIFIED LEARNING OBJECTIVES. (FIGURE 1)



THUS, OUR BUSINESS ADMINISTRATION STUDENTS MAY BE FOUND IN MANUFACTURERS HANOVER TRUST BANK AS CUSTOMER SERVICE REPS---OUR COMPUTER MAJORS MAY BE JUNIOR PROGRAMMERS AT IBM OR TECHNICAL ASSISTANTS IN A COLLEGE COMPUTER LAB---TRAVEL AND TOURISM

STUDENTS CAN BE FOUND WORKING FOR MAJOR AIRLINES AND AGENCIES, AND THOSE IN LIBERAL ARTS, IN A BROAD RANGE OF POSITIONS RELATED TO THEIR SPECIFIC INTEREST.

THE ORIGINAL DESIGN OF OUR SEMINARS WAS TO ASSIST OUR STUDENTS IN MORE FULLY INTEGRATING ACADEMIC CONCEPTS LEARNED PRIOR TO THEIR INTERNSHIPS VIA THE "TEACH - APPLY - REINFORCE" OR "TAR" PARADIGM WHEREIN CONCEPTS (T)AUGHT IN CLASS WERE THEN (A)PPLIED TO A WORK SETTING AND (R)EINFORCED DURING THE CO-OP SEMINAR. THIS APPLIED TO INTRODUCTORY ACADEMIC COURSEWORK DURING THE FIRST OF THE THREE SEMINARS AND TO ADVANCED COURSEWORK DURING THE FINAL SEMINAR WITH THE SECOND DESIGNATED EXCLUSIVELY FOR INTENSIVE IMMERSION IN A GENERIC CAREER ADVANCEMENT CURRICULUM.

THE MAJORITY OF MY EXPERIENCE IN TEACHING CO-OP SEMINARS AT LAGUARDIA HAS BEEN WITH FIRST LEVEL SEMINARS AND, MORE SPECIFICALLY, IN THE COMPUTER INFORMATION SYSTEMS (CIS), BUSINESS MANAGEMENT, AND TRAVEL AND TOURISM MAJORS. I'VE PERSONALLY WITNESSED THE "OUTMODING" OF OUR COMPUTER SEMINAR CURRICULUM AS NEW OPTIONS WERE RAPIDLY ADDED TO THE ACADEMIC DEPARTMENT AND THE MAJOR MOVED FROM OFFERING ONLY COMPUTER SCIENCE AND PROGRAMMING TO INCLUDING OPTIONS FOR STUDY IN COMPUTER REPAIR, OPERATIONS, AND TELECOMMUNICATIONS. CLEARLY, INTRODUCTORY CONCEPTS LEARNED BY COMPUTER PROGRAMMING AND SCIENCE STUDENTS WOULD DIFFER FROM THOSE LEARNED BY STUDENTS IN THE OTHER TECHNICAL AREAS. HOWEVER, THE FIVE GROUPS WOULD APPEAR IN THE SAME SEMINAR CLASS SINCE SMALL NUMBERS MADE IT IMPRACTICAL TO HAVE A "TAR" CURRICULUM AND

SEMINAR FOR EACH GROUP. SIMILARLY, MY BUSINESS SEMINARS WERE OFTEN FLAVORED WITH THE PRESENCE OF A TRAVEL AND TOURISM, LIBERAL ARTS, OR OTHER MAJOR STUDENT WHO WAS FORCED TO REGISTER FOR MY SECTION DUE TO SOME SCHEDULING CONFLICT YET HAVING NO REAL INTEREST OR APPRECIATION FOR BUSINESS "TAR" CONCEPTS. THIS PROVIDED FOR ME A CLEAR DILEMMA WHERE I OFTEN ENDED UP JUGGLING AND STRUGGLING TO FIT THE "OUTSIDERS" INTO MY BOX OF (LIMITED) INSTRUCTIONAL MATERIALS.

AS THESE CHANGES WERE TAKING PLACE, I WAS SIMULTANEOUSLY AWARE OF THE GOALS OF ADVOCATES OF GENERAL EDUCATION (PARTICULARLY AT COMMUNITY COLLEGES) AND WAS STIRRED BY THEIR DESIRE AND COMMITMENT TO PRODUCE GRADUATES WITH THE ABILITY TO "THINK CRITICALLY" IN A VARIETY OF SITUATIONS.

LAGUARDIA COMMUNITY COLLEGE'S DIVISION OF COOPERATIVE EDUCATION HAS APPROACHED THIS GOAL IN ITS RECENTLY DEVELOPED MISSION STATEMENT FOR SEMINAR COURSEWORK THAT SAYS, "LAGUARDIA COMMUNITY COLLEGE BELIEVES IN THE VALUE OF LINKING WORK EXPERIENCE WITH OPPORTUNITIES FOR CRITICAL ANALYSIS AND REFLECTION. THE MISSION OF THE DIVISION OF COOPERATIVE EDUCATION IS TO PROVIDE STUDENTS WITH LEARNING EXPERIENCES THAT WILL ENABLE THEM TO REALIZE THEIR FULL POTENTIAL IN WORK, EDUCATION, AND EVERYDAY LIFE...

THE SEMINAR CURRICULUM, WHICH IS DESIGNED TO HAVE A SEQUENTIAL, CUMULATIVE, AND SYNERGISTIC EFFECT, PROVIDES A FRAMEWORK FOR ANALYZING AND EVALUATING THE STUDENTS' INTERNSHIP EXPERIENCES."

IT GOES ON TO STATE THAT, "THE PURPOSES OF THE SEMINAR CURRICULA

ARE TO ENABLE STUDENTS TO:

1-SYNTHESIZE MEANING FROM THE DAY-TO-DAY OCCURRENCES OF THEIR INTERNSHIPS TO BROADEN THEIR UNDERSTANDING OF THEORETICAL CONCEPTS AS THEY APPLY TO REAL LIFE SITUATIONS.

2-GAIN INSIGHTS INTO THE RELATIONSHIP OF SELF TO WORK AND TO THE LARGER SOCIETY BY UNDERSTANDING THEIR OWN VALUES AND DEVELOPING AN AWARENESS AND APPRECIATION OF DIFFERENCES.

3-UNDERSTAND THE STEPS REQUIRED IN THE CAREER DECISION-MAKING PROCESS IN ORDER TO PLAN FOR PROFESSIONAL MOBILITY AND LIFELONG LEARNING.

4-DEVELOP THE PERSONAL AND PROFESSIONAL SKILLS AND STRATEGIES THAT WILL FACILITATE SUCCESS IN THE NEXT STAGES OF LIFE."

WE ARE, IN FACT, ACTIVELY ENGAGED IN THE ONGOING PROCESS OF UPGRADING EXISTING CURRICULA AND DESIGNING NEW CURRICULA TO THESE ENDS.

IN ADDITION TO MY INVOLVEMENT IN CO-OP SEMINARS, MY WORK AT LAGUARDIA ALSO INCLUDES THE DEVELOPMENT AND MAINTENANCE OF RELATIONSHIPS WITH INTERNSHIP EMPLOYERS FROM A VARIETY OF FIELDS. WHILE THEIR FEEDBACK OF INTERNS DURING THE ON-SITE PERFORMANCE

APPRAISALS I CONDUCT AS WELL AS THEIR FORMAL EVALUATIONS AT THE CONCLUSION OF THE INTERNSHIP TEND TO BE MOSTLY AFFECTIVE AND/OR DIRECTLY RELATED TO SKILL-RELATED PERFORMANCE OBJECTIVES, MANY HAVE EXPRESSED COMMENTS THAT INDICATE SOME OTHER ABILITIES THEY SEEM TO VALUE IN INTERNS. HERE ARE A FEW SUCH COMMENTS:

"...easily adapted to our environment..."

-John Blair Associates/New York, NY

"...the airline business changes everyday and student(s) must get used to change and learning new things daily..."

-American Airlines/Jamaica, NY

"...sought workable solutions..."

-Citicorp/New York, NY

"...freely offers suggestions to increase efficiency..."

-Hermes/New York, NY

"...asked many questions..."

-Japanese National Tourist Org./New York, NY

"...able to successfully apply his knowledge to a practical setting..."

-American Transit Insurance/New York, NY

"...responsive to criticism..."

-Staires et al (law Firm)/New York, NY

"...learned our system and made suggestions to streamline process..."

-Hardach Travel Agency/New York, NY

"...adapts easily to new situations..."

-Zirrat Bankasi (Turkish Bank)/New York, NY

SOUND FAMILIAR???

THE NEW YORK TIMES "OUTLOOK FOR EMPLOYMENT" SECTION PRINTED AN ARTICLE ON OCTOBER 1, 1989 ENTITLED, "IN 1990S, WHAT PRICE SCARCE LABOR", THAT INDICATES THAT "INDUSTRIES THAT NEED WELL-EDUCATED WORKERS CAPABLE OF MAKING INDEPENDENT DECISIONS WILL CONTINUE TO EXPAND, INCREASING THE PRESSURE ON SCHOOLS TO EDUCATE STUDENTS BETTER..." THE SAME ARTICLE CITES AUDREY FREEDMAN, AN ECONOMIST AT THE CONFERENCE BOARD---A BUSINESS RESEARCH ORGANIZATION IN NEW YORK AS SAYING THAT, "THE BEST OPPORTUNITIES AND THE GREATEST DEMAND WILL BE FOR JOBS THAT REQUIRE INDEPENDENT THINKING..." SHE GOES ON TO STATE THAT "THESE SKILLS ARE NOT BEING TAUGHT WELL ENOUGH IN SCHOOLS..." AND FINALLY THAT, "THESE JOBS REQUIRE REASONING AND LOGICAL ABILITY, SELF-CONTROL AND THE ABILITY TO DIAGNOSE AND TAKE ACTION."

AS YOU CAN SEE, THE STAGE IS WELL SET FOR AN EXAMINATION OF TO WHAT EXTENT OUR PROGRAMS ADDRESS THE ISSUES AT HAND. THOSE OF YOU RESPONSIBLE FOR PLACING STUDENTS ON INTERNSHIPS NO DOUBT SHARE WITH ME THE DESIRE TO PRODUCE INTERNS THAT SUITABLY MATCH THE NEEDS AND DEMANDS OF EMPLOYERS. HOWEVER, ALONG WITH THAT INTEREST AND PERHAPS OF UTMOST CONCERN, IS THE DESIRE TO IN SOME WAY FACILITATE THE LONG-RANGE EDIFICATION OF OUR STUDENTS BEYOND THEIR PARTICIPATION IN OUR PROGRAMS.

WITH THESE THINGS IN MIND, I SET OUT TO FIND WAYS OF IMPROVING

OUR STUDENTS' CRITICAL THINKING SKILLS AND THUS, THEIR PREPAREDNESS FOR SUCCESS IN THE WORKPLACE BY ADAPTING PREVALENT THEORIES OF CRITICAL THINKING TO THE SEMINARS I TEACH.

THERE EXIST A NUMBER OF DEFINITIONS OF JUST WHAT IS MEANT BY CRITICAL THINKING. WHAT ARE YOUR IDEAS ON THE SUBJECT???

WELL, IN THEIR BOOK, THE GOAL OF CRITICAL THINKING: FROM EDUCATIONAL IDEAL TO EDUCATIONAL REALITY, DEBBIE WALSH AND RICHARD PAUL STATE THAT "DEFINING CRITICAL THINKING CAN SEEM AS CHALLENGING AS DEFINING LOVE". (1) NEVERTHELESS, HERE ARE A FEW OF THE DEFINITIONS MOST WIDELY USED BY EXPERTS IN THE FIELD.

ACCORDING TO ROBERT ENNIS, WHO IS PROFESSOR OF EDUCATION AND DIRECTOR OF THE ILLINOIS THINKING PROJECT AT THE UNIVERSITY OF ILLINOIS AND WHO HAS BEEN ENGAGED IN THE STUDY OF CRITICAL THINKING SINCE THE MID-50S, "CRITICAL THINKING IS THE REASONABLE REFLECTIVE THINKING THAT IS FOCUSED ON DECIDING WHAT TO BELIEVE OR DO." (1)

BARRY BEYER, AUTHOR OF COMMON SENSE ABOUT TEACHING THINKING SKILLS, DESCRIBES IT AS "ASSESSING THE AUTHENTICITY, ACCURACY AND WORTH OF KNOWLEDGE CLAIMS, BELIEFS OR ARGUMENTS; THINKING FOR ONESELF" (1) OR AS STEPHEN BROOKFIELD, ASSOCIATE PROFESSOR IN THE DEPARTMENT OF HIGHER AND ADULT EDUCATION AT TEACHERS COLLEGE, COLUMBIA UNIVERSITY PUTS IT, "QUESTIONING THE ASSUMPTIONS UNDERLYING OUR CUSTOMARY HABITUAL WAYS OF THINKING AND ACTING AND

THEN BEING READY TO THINK AND ACT DIFFERENTLY ON THE BASIS OF THIS CRITICAL QUESTIONING. (2)

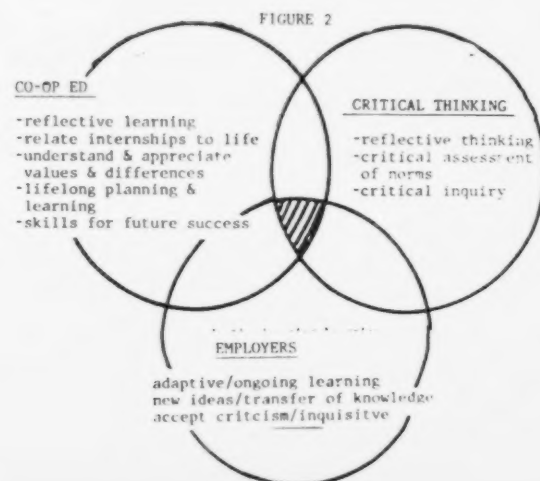
ROBERT GLASER, WHOSE WRITINGS ON THE SUBJECT APPEAR IN SUCH JOURNALS AS AMERICAN PSYCHOLOGIST AND THINKING AND LEARNING SKILLS, SAYS THAT IT INVOLVES THREE PRINCIPLE ELEMENTS AS FOLLOWS:

1-ATTITUDE OF BEING DISPOSED TO CONSIDER IN A THOUGHTFULLY PERSPECTIVE MANNER, THE PROBLEMS AND SUBJECTS THAT COME WITH ONE'S RANGE OF EXPERIENCE,

2-KNOWLEDGE OF THE METHODS OF LOGICAL INQUIRY AND REASONING, AND

3-SKILL IN APPLYING THESE METHODS. (1)

CO-OP ED, AS PART OF THE CAREER EDUCATION AND ADVANCEMENT PROCESS THAT SO CLEARLY INVOLVES HIGHLY SELECTIVE DECISION-MAKING AND SERVES SO DIRECTLY AS A LINK TO EMPLOYERS WHO WANT UPWARDLY MOBILE, ADAPTIVE, CREATIVE WORKERS, THUS BECOMES A NATURAL ARENA FOR MORE ACTIVELY INVOLVING OUR STUDENTS IN THE KIND OF REFLECTIVE AND ANALYTICAL PROCESSES PURPORTED BY CRITICAL THINKING PHILOSOPHY. (FIGURE 2) .



LET'S CONSIDER FOR A MOMENT SOME OF WHAT ACTUALLY TAKES PLACE AT THE INTERNSHIPS. STUDENTS

- LEARN AND PRACTICE SKILLS

- OBSERVE BEHAVIORS

- DETERMINE AFFECT (THEIR LIKE OR DISLIKE OF A CAREER SELECTION)

- GATHER INFORMATION TO MAKE DECISIONS ABOUT THEIR "NEXT STEP."

- OR, AS THE TAR MODEL SUGGESTS, RELATE PREVIOUSLY LEARNED CONCEPTS TO THE WORKPLACE.

BUT SOME OF YOU MAY HAVE DISCOVERED AS I CERTAINLY HAVE, THAT NOT ALL INTERNSHIPS ARE CREATED EQUALLY. SOME OFFER RICH, DIVERSE OPPORTUNITIES FOR LEARNING AND OBSERVATION AND SOME INVOLVE JUST A FEW DAYS OR WEEKS OF TRAINING AFTER WHICH THE INTERN SETTLES INTO A ROUTINE OFTEN WHICH MAY (ACTUALLY) BE BORING OR WITHOUT SIGNIFICANT CHALLENGE.

STEPHEN BROOKFIELD, THE TEACHER COLLEGE PROFESSOR PREVIOUSLY MENTIONED HAS DONE SOME SPECIFIC RESEARCH ABOUT CRITICAL THINKING IN THE CONTEXT OF THE WORKPLACE, AND HE MAINTAINS THAT THOSE "WORKPLACE SETTINGS WHERE DEMOCRATIC PARTICIPATION AND WORKER CONTROL ARE THE NORM, PROVIDE THE MOST FAVORABLE CONDITIONS FOR CRITICAL THINKING." UNFORTUNATELY, HOWEVER, THIS IS NOT THE PICTURE PAINTED BY MANY OF THE SITES WHERE INTERNS WITH LIMITED ENTRY LEVEL ABILITIES ARE PLACED. SO THE OCCASIONAL COMPLAINTS THAT I'VE ENCOUNTERED THAT "THE INTERNSHIP DOESN'T FULLY RELATE

TO MY MAJOR" OR "I DON'T GET A CHANCE TO DO X-Y-Z" ARE OFTEN VALID. BROOKFIELD'S STUDIES FOUND THAT "WHEN WORKERS FOLLOW STANDARDIZED PATTERNS OF PRODUCTIVE BEHAVIOR IMPOSED FROM ABOVE THEY TENDED TO REACH A STATE OF EQUILIBRIUM WHERE THEY HAVE MASTERED THE JOB (YET) CONFRONT NO NEW DEVELOPMENTAL CHANGES."

(2)

IN HIS BOOK, DEVELOPING CRITICAL THINKERS, BROOKFIELD QUOTES AN (ELABORATE) PLAN FOR DEMOCRATIZING THE WORKPLACE THAT INCLUDES SUCH TRANSFORMATIONS AS

- WORKER PARTICIPATION IN DECISION MAKING
- FEEDBACK TO WORKERS ON ECONOMIC ISSUES
- INFORMATION AND EXPERTISE SHARING BETWEEN MANAGERS AND WORKERS
- GUARANTEE OF INDIVIDUAL RIGHTS, AND
- THE PRESENCE OF ATTITUDES REFLECTIVE OF PARTICIPATORY CONSCIOUSNESS. (2)

REGRETTABLY, WHILE WE HOPE FOR WORK ENVIRONMENTS WITH SUCH CHARACTERISTICS, THIS KIND OF SCENARIO IS HARDLY UNIVERSAL AND IT IS UNLIKELY THAT OUR STUDENTS CAN EFFECTUATE THIS TYPE OF CHANGE (IF NEEDED) WHILE IN THEIR LIMITED FUNCTIONS FOR LIMITED AMOUNTS OF TIME. HOWEVER, THE REALITY OF HAVING TO FACE THIS KIND OF SITUATION DOES OPEN THE DOOR TO POSSIBILITIES FOR GROWTH, ANALYSIS, AND DISCOVERY ON THE PART OF THE INTERN BASED ON THE APPLICATION OF CRITICAL THINKING SKILLS.

I BELIEVE THAT INTERNSHIP RELATED COURSEWORK SERVES AS A VERY SUITABLE PLACE FOR USING THE FEEDBACK GENERATED BY STUDENTS TO MORE POSITIVE ENDS WHILE ALSO HELPING STUDENTS GAIN SUBSTANTIAL MEANING FROM THEIR WORK EXPERIENCE.

TO DO THIS, I CHOSE TO USE A TEACHING METHODOLOGY KNOWN AS BLOOM'S TAXONOMY, A TECHNIQUE I INITIALLY ENCOUNTERED DURING MY STUDIES AT TEACHERS COLLEGE. BLOOM'S TAXONOMY HAS LONG BEEN ASSOCIATED WITH CURRICULUM DEVELOPMENT FOR THE GIFTED DURING THEIR GRADE SCHOOL YEARS, HOWEVER, I IMMEDIATELY SAW THE POTENTIAL FOR ITS USE IN CAREER RELATED COURSEWORK.

BLOOM'S TAXONOMY INVOLVES THE ARRANGEMENT OF COGNITIVE PROCESSES ESSENTIAL TO HIGHER ORDER THINKING INTO A HIERARCHY OF SKILLS EACH (SUPPOSEDLY) BUILDING ON THE SKILLS AND ABILITIES LOWER ON THE SCHEME.(3) CRITICS OF THIS APPROACH POINT TO THE FALLACY OF A ONE-WAY HIERARCHY OF LEARNING AND I TEND TO AGREE THAT USE OF THE PROCESSES CAN AND VERY OFTEN DO OCCUR SIMULTANEOUSLY, HOWEVER, THIS TAXONOMY PROVIDES AN EXCELLENT FRAMEWORK FOR INSTRUCTIONAL DESIGN USING CRITICAL THINKING SKILLS. THIS IS HOW THE APPROACH WORKS:

THE KNOWLEDGE PROCESS INVOLVES THE LEARNING AND REPEATING OF INFORMATION FROM MEMORY. (OFTEN QUICKLY FORGOTTEN)

COMPREHENSION INVOLVES REPRESENTATIONS OF THE UNDERSTANDING OF LITERAL MESSAGES (KNOWLEDGE) CONTAINED IN ANY VERBAL OR

WRITTEN COMMUNICATION. IE., INTERPRETATION OF KNOWLEDGE IN ONE'S OWN WAY

APPLICATION INVOLVES APPLYING AN INDIVIDUAL ABSTRACTION OR INTERPRETATION TO NEW SITUATIONS

THE ANALYSIS LEVEL EMPHASIZES BREAKING DOWN INFORMATION INTO PARTS AND DETECTING THE RELATIONSHIP OF THE PARTS.

THE SYNTHESIS PROCESS INVOLVES PUTTING TOGETHER ELEMENTS TO FORM A WHOLE WHICH IS DIFFERENT FROM THE CURRENTLY OR PREVIOUSLY EXISTING PATTERN OR STRUCTURE

THE EVALUATION PHASE INVOLVES MAKING VALUE JUDGMENTS USING SPECIFIED CRITERIA AND STANDARDS OF APPRAISAL. MAY BE QUALITATIVE OR QUANTITATIVE. (4)

IN ADDITION TO USING BLOOM'S TAXONOMY TO INCREASE COGNITIVE SKILL DEVELOPMENT, I WAS CONCERNED WITH STUDENTS' WRITING ABILITIES AND, IN PARTICULAR, THEIR APPARENT INABILITY TO GO BEYOND A MERE GENERAL...AND OFTEN VAGUE DESCRIPTION OF THE INTERNSHIP IN THEIR WRITTEN EXPRESSION.

THERE DOES EXIST A "COGNITIVE PROCESS THEORY" OF COMPOSITION- ESPOUSED BY FLOWER AND HAYES, CO-AUTHORS OF SEVERAL WORKS ON COLLEGE COMPOSITION AND COGNITIVE PROCESSES IN WRITING, THAT I'VE

FOUND WORTHWHILE AND USEFUL. THE PROCESS ENTAILS 3 PHASES AS FOLLOWS:

1-PLANNING- FORMING IDEAS AND INFORMATION ABOUT WHAT WILL BE WRITTEN BASED ON LONG TERM MEMORY/ ORGANIZING INFORMATION/ CATEGORIZING/ AND SEEING RELATIONSHIPS

2-TRANSLATING- PUTTING THE IDEAS INTO VISIBLE LANGUAGE. FORCES STUDENTS TO JUGGLE DEMANDS OF WRITTEN LANGUAGE IN TERMS OF AUDIENCE/ SYNTAX/ TONE/ ETC. IF STUDENTS ARE NOT ABLE TO MAKE THIS TRANSLATION QUICKLY, THE OBVIOUS DEMANDS INVOLVED IN CONSTRUCTING TEXT CAN IMPEDE ON THE WRITING PROCESS.

3-REVIEWING- EVALUATING AND REVISING; CRITICALLY READING WHAT'S BEEN WRITTEN AND INCORPORATING FEEDBACK (FROM DRAFTS) (4)

AS A TOOL FOR INCORPORATING THIS APPROACH AND DEVELOPING WRITING AND COGNITIVE SKILLS, I USE WEEKLY LOGS IN MY SEMINARS. THEY SERVE SOMEWHAT AS JOURNALS AND SHOW RECORD OF FACTS LEARNED, ACTIVITIES ENGAGED IN AND INCIDENTS OBSERVED AT THE INTERNSHIP. AFTER REPORTING THESE, STUDENTS MUST CRITICALLY ASSESS THE ITEMS LISTED IN THEIR LOGS USING BLOOM'S TAXONOMY AS A GUIDE FOR ANALYSIS. THEY ARE THEN REQUIRED TO SEARCH FOR REASONS WHY THE

FACTS, ACTIVITIES, AND INCIDENTS EXIST AND USE ALL THIS INFORMATION (AS EXAMPLES) WHEN ARTICULATING THEIR INTERNSHIP EXPERIENCES. THIS PROCESS INCORPORATES AN ACRONYM I USE CALLED "FIRE",

F=FACTS

(ACTIVITIES)

I=INCIDENTS

R=REASONS

E=EXAMPLES

AND I REFER TO THE DATA COLLECTED AS "LOG-FIRE".

BEFORE WE TAKE A CLOSER LOOK AT TWO MODELS I'VE DEVELOPED TO INCORPORATE THESE TECHNIQUES, IT'S IMPORTANT TO NOTE AT THIS POINT THAT WHILE TRANSFORMING THE CURRICULUM IS IMPORTANT, THE ROLE OF THE INSTRUCTOR NEEDS TO BE ADDRESSED AS WELL. ONE EXPERT IN THE AREA OF CRITICAL THINKING STATES THAT "THE WAY THE TEACHER RESPONDS IS MORE INFLUENTIAL IN DETERMINING STUDENT OUTCOMES THAN WHAT THE TEACHER ASKS OR TELLS THE STUDENTS TO DO." (4)

I VIEW THE INSTRUCTOR'S ROLE IN INTERNSHIP RELATED COURSEWORK AS BEING A FACILITATOR OR ENABLER. AS SUCH, IT'S IMPORTANT THAT A CERTAIN TONE BE SET AT THE BEGINNING OF THE COURSEWORK. THIS IS NECESSARY TO PROPERLY DIRECT STUDENTS' ATTITUDES AND DISPOSITIONS TOWARDS CRITICAL THINKING. WE'VE FOCUSED SO FAR ON THE APPROACH USED FOR TEACHING, HOWEVER, THE APPROACH TO LEARNING ALSO DESERVES ATTENTION AND THE INSTRUCTOR/FACILITATOR CAN PLAY A POWERFUL ROLE IN SHAPING THESE ATTITUDES. YOU'LL RECALL IN ONE OF THE DEFINITIONS CITED THE NECESSITY FOR THESE ATTITUDES AND

DISPOSITIONS IN ANY CRITICAL THINKING PEDAGOGY. ROBERT ENNIS, WHOSE DEFINITION WE ALSO CONSIDERED HAS DEVELOPED A LIST OF DISPOSITIONS AND ATTITUDES FOR CRITICAL THINKING. HERE ARE A FEW EXCERPTS FROM HIS LIST:

- Seek reasons
- Try to be well informed
- Use credible sources and mention them
- Take into account the total situation
- Try to remain relevant to the main point
- Be open-minded
- Take a position (and change a position) when the evidence and reasons are sufficient to do so (1)

TO DATE, I'VE INCORPORATED THESE GOALS AND METHODOLOGIES IN A VARIETY OF WAYS. FOR INTERNSHIP COURSEWORK THAT IS MAJOR RELATED, LIKE THE TAR COURSEWORK WHERE THE GOAL IS TO REINFORCE AN ACADEMIC CONCEPT PREVIOUSLY LEARNED BASED ON THE CONCURRENT INTERNSHIP EXPERIENCE. I DO THE FOLLOWING:

1-IDENTIFY THE KEY CONCEPTS TO BE REINFORCED & GENERATE SUPPORTIVE (TEXTUAL) MATERIAL

eg., For a seminar comprised of Business Management and Business Administration students the concept of "Motivation at Work" might be selected.

2-DEVISE QUESTIONS & PROBLEMS THAT RELATE TO EACH COGNITIVE LEVEL (BLOOM'S TAXONOMY)

eg., Knowledge- List the key features of Maslow's Hierarchy of Needs, the Job Enrichment Theory, and

the Expectancy Theory.

Synthesis- Imagine that you are the manager at your current internship site. Use the 3 theories to develop a policy to ensure that your staff will be motivated.

3-USE HOMEWORK ASSIGNMENTS TO DEAL WITH THE 1ST THREE LEVELS (Knowledge-Comprehension-Application) OF COGNITIVE DEVELOPMENT SINCE THESE ARE LEVELS MOST FAMILIAR TO STUDENTS.

4-USE IN-CLASS ACTIVITIES TO DEAL WITH THE THREE HIGHER (Analysis-Synthesis-Evaluation) LEVELS OF COGNITIVE DEVELOPMENT SO I CAN FACILITATE THESE AREAS OF THINKING THAT MAY BE MORE CHALLENGING FOR STUDENTS

5-USE LOGS TO RECORD AND ASSESS NEW LEARNING [Sample 1 & 2]

6-USE ESSAY AS FINAL EVALUATIVE MECHANISM FOR ASSESSING ABILITY TO USE ALL COGNITIVE SKILL LEVELS [Sample 3]

IN THESE SESSIONS THE LEARNING OBJECTIVES ARE 2 DIMENSIONAL...TO REINFORCE BASIC CONCEPTS & TO DEVELOP FURTHER COGNITIVE ABILITY.

FOR THOSE GROUPS WITH MORE HETEROGENEOUS POPULATIONS, I DO THE FOLLOWING:

1-USE 6 PROCESSES AS KEY CONCEPTS & DEVELOP A "WEEKLY THEME" AROUND THESE PROCESSES

EG., Week 1:KNOWLEDGE-Learning About Your Workplace

Week 4:ANALYSIS-The Whole is Equal to the Sum of
Its Parts

2-DISCUSS THE PROCESS AND REINFORCE THE PROCESS WITH A
RELATED IN-CLASS ACTIVITY

3-ASSIGN HOMEWORK THAT RELATES PROCESS TO INTERNSHIP

4-USE LOGS TO RECORD AND ASSESS NEW LEARNING [Sample 1 & 2]

5-USE ESSAY AS FINAL EVALUATIVE MECHANISM FOR ASSESSING
ABILITY TO USE ALL COGNITIVE SKILL LEVELS [Sample 4]

THE COURSE OBJECTIVES HERE ARE ONE DIMENSIONAL STRESSING
COGNITIVE AWARENESS AND DEVELOPMENT AT THE INTERNSHIP.

AT THIS TIME, MY USE OF EACH TECHNIQUE IS RELATIVELY NOVEL AND
THE RESULTS OF THEIR USE ARE FAR MORE ANECDOTAL THAN EMPIRICAL. I
THINK BOTH HAVE CONSIDERABLE MERITS. MOST RECENTLY, I'VE USED THE
GENERIC APPROACH SINCE MY GROUP WAS MIXED. ONE SPECIFIC OUTCOME
THAT I'VE NOTED, PRIMARILY THROUGH THE ESSAY, WAS THAT NONE OF
THE COMPUTER MAJORS IN ONE OF MY HETEROGENEOUS GROUPS (4 out of
14) WENT BEYOND THE APPLICATION PROCESS! THIS WAS ALSO REFLECTED,
THOUGH TO A LESSER DEGREE IN THE CLASS ACTIVITIES AND HAS LED ME
TO DEVELOP SPECIFIC EXAMPLES FOR THEM TO MODEL AT EVERY LEVEL.
THEY DID BETTER, HOWEVER WITH HOMEWORK QUESTIONS. BUSINESS
MANAGEMENT STUDENTS TENDED TO DO BEST OVERALL BUT ONLY 5 OUT OF 7
IN THE SAME GROUP OF 14 MADE IT TO BLOOM'S LEVEL 6.

MY LAST EXPERIENCE USING THE MAJOR RELATED APPROACH WORKED WELL,
PERHAPS BECAUSE OF WEEKLY PRACTICE AT EACH LEVEL AND THE
FACILITATOR'S INVOLVEMENT AT THE HIGHER LEVELS. AS I WORK TO

REFINE THESE APPROACHES FOR USE IN OUR INTERNSHIP BASED
COURSEWORK, I WILL BEGIN TO USE MORE SOPHISTICATED EVALUATION
METHODS.

HERE ARE SOME THINGS YOU'LL WANT TO THINK ABOUT IN DECIDING TO
INFUSE YOUR CURRICULA WITH CRITICAL THINKING METHODOLOGIES:

GUIDELINES FOR CURRICULUM DEVELOPMENT OF INTERNSHIP RELATED
COURSEWORK USING CRITICAL THINKING by Belinda Stephenson-Miles

1. Develop a STATEMENT OF PHILOSOPHY that clearly identifies the strategies and methodologies you intend to use. The goals of your proposed curriculum should also be indicated and, where possible, related to the general statement or purpose of your Co-Op program. State the rationale for your particular approach and spell out the **benefits and outcomes** students will derive from the new curriculum.
2. Take your CLASS SITUATION into consideration when planning your curriculum. Give serious thought to the "nature" of your internship related coursework and tailor the approach you select to your needs. For example, are you dealing with a concurrent course? How many meetings will be held? For how long? Is the setting formal or informal? Instructional or facilitative? Conscious awareness of the specific features of your program enables you to better deal with any limitations or special circumstances you may encounter.
3. Know your audience. To the best of your ability, try to identify your TARGET POPULATION - by major, number of credits, prior academic training and work experience, type

of (concurrent) internship, age, etc. This will aid you in developing materials that are most relevant and appropriate.

4. Set COURSE OBJECTIVES for students that clearly state your critical thinking goals. Share the teaching methodologies you select with the students. This makes them aware of as well as involved in the process of developing better thinking skills. This kind of participation is known as "metacognition" - an awareness of thinking as specific tasks are performed and then use of the awareness to control actions.

5. Prepare ACTIVITIES that

- Strive to arouse all cognitive levels by incorporating techniques like Bloom's Taxonomy of Educational Objectives. Also seek ways to challenge students' disposition and attitudes about critical thinking.

- Build on experiences that are real for students. Internships are excellent sources of new information and stimuli on which students can reflect, however, students also bring many rich experiences to the classroom that can also be quite useful in teaching critical thinking.

- Are dynamic. While reflection is a central feature of

Critical thinking pedagogy, critical thinking is an ongoing process, not an end. Thus students should be encouraged to recognize the myriad of situations they encounter as occasions to practice critical thinking skills.

-Provide opportunities to link thinking with language. Both oral discourse and written expression (as forms of language) are closely associated with thinking skills. Students will already have varying levels of thinking abilities but may not be comfortable in exercising them through all media. Some may be comfortable with inquiry during discussion while others may have aptitude in criticizing while writing. Formal association of critical thinking with written assignments and directed discussions will give students ample occasion for increased cognitive development.

-Allow for different points of view. This type of "dialectical thinking" is crucial to helping students develop an appreciation for views, thoughts, and actions that vary from their own.

-Promote use of evidence. In recognizing different perspectives, students should also be able to have some level of appreciation for the basis of those perspectives. Likewise, statements and conclusions that

they generate themselves should be well-supported. (6)

6. -Develop EVALUATION INSTRUMENTS to allow for objective expression at each cognitive skill level. Students must be permitted to fully utilize their new thinking skills in an open and forthright manner. Consistent feedback is necessary to properly guide students and keep them on track.
7. Identify and select MATERIALS to assist students at each developmental stage. Your "bag of tricks" should include a variety of handouts, articles, etc. suitable for students at different cognitive levels. Resources should be clear, informative and readily available.
8. Identify and maintain contact with HUMAN RESOURCES with whom you can share and exchange ideas and insights. Find out who's who on your campus and in your academic community and keep in touch.
9. Set a realistic TIME FRAME for achieving goals. While "Proper Planning may often Prevent Poor Performance", it is important not to plan too much too soon. So don't be overzealous in your initial efforts. Time must be allowed for students to discover, explore, and develop their novel abilities. You will need plenty of time for reflection as well.

10. COMMENTS. Keep plenty of notes and records of your successes and areas of improvement. Also, don't overlook students as a valuable source of feedback. Develop and incorporate a technique for this purpose. [Sample 6]

SAMPLE I

NAME _____ DATE _____

WEEKLY LOG

GATHERING INFORMATION: FACTS LEARNED AT INTERNSHIP THIS WEEK

- 1-
- 2-
- 3-
- 4-
- 5-

LEARNING BY DOING: ACTIVITIES ENGAGED IN AT INTERNSHIP THIS WEEK

- 1-
- 2-
- 3-
- 4-
- 5-

LEARNING BY SEEING: INCIDENTS OBSERVED AT INTERNSHIP THIS WEEK

- 1-
- 2-
- 3-
- 4-
- 5-

ADDITIONAL COMMENTS

SAMPLE 2

NAME _____ DATE _____

WEEKLY LOG WORKSHEET

FACTS: Select 1 fact from log sheet for this section.

This information increased my knowledge of _____

This information helped me understand _____

I can apply this knowledge to future situations by _____

This fact is a part of the process of _____

This information is part of the plan to _____

Awareness of this fact will be useful in my current position to _____

My opinion of this information is _____

ACTIVITIES: Select 1 activity from log sheet for this section.

Engaging in this activity increased my knowledge of _____

Engaging in this activity helped me understand _____

This activity has prepared me for _____

This activity is part of the process of _____

This activity is part of the plan to _____

This activity could be improved by _____

My opinion of this activity is _____

INCIDENTS: Select 1 incident from log sheet for this section.

This incident increased my knowledge of _____

This incident helped me understand _____

Based on my observation of this incident, in the future I will _____

This incident is part of the process of _____

This incident is part of the plan to _____

If I were personally involved in this incident, I would have _____

My opinion of this incident is _____

SAMPLE 3

FINAL (ESSAY) [For use in internship related coursework that relates academic concepts AND cognitive skill development to internships]

Write an essay about your _____ quarter internship using the outline below as a guide. Be sure to use F-I-R-E* to support your thoughts and ideas.

- I. MOTIVATION
- II. PRINCIPLES OF ORGANIZING
- III. PROBLEM SOLVING & DECISION-MAKING
- IV. INFORMAL GROUPS
- V. LEADERSHIP

IN EACH SECTION, you will

-Identify the principle learned in class. Specify all information gained at your internship as it relates to this principle.

-Summarize the main point of the stated principle and prepare a one or two sentence statement (in your own words) to summarize your internship organization's approach to dealing with this principle.

-Discuss how the internship serves as a place to observe or experience this principle. Discuss how what you've learned at this internship will be useful to you in other areas of your life.

-Explain the rationale for the way your internship organization functions in this area.

-Develop a plan to fully incorporate this principle in your internship. Explain, in detail, how your plan will be implemented.

-Using the characteristics of each principle as criteria, rate the current effectiveness of your internship in each area.

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* ACTIVITIES YOU HAVE OBSERVED OR DIRECTLY PARTICIPATED IN AS PART OF YOUR INTERNSHIP SHOULD BE USED TO SUPPORT THE ITEMS YOU PRESENT IN YOUR ESSAY IN THE FOLLOWING WAYS:

- | | |
|-------------------|--|
| <u>FACTS-</u> | Provide reader with concrete details about what you are communicating. |
| <u>INCIDENTS-</u> | Help reader visualize your point by providing them with an image that demonstrates actual occurrences. |
| <u>REASONS-</u> | Strengthen what you are saying by providing "back-up" or justification for your viewpoints. |
| <u>EXAMPLES-</u> | Help clarify your points by providing similar or analogous points and experiences. |

SAMPLE 4

FINAL (ESSAY) (For use in internship related coursework with heterogeneous [major] groups)

Write an essay about your _____ quarter internship using the outline below as a guide. Be sure to use F-I-R-E* to support your thoughts and ideas.

I. KNOWLEDGE

In this paragraph, indicate all new information you have gained from this internship (Eg., facts about the company or industry, new skills and equipment used, etc.)

II. COMPREHENSION

Provide a description of how you would explain to your replacement intern all the experiences that can be gained at this internship. Avoid repeating a list of what was mentioned in the 1st paragraph and attempt to summarize the learning that can occur.

III. APPLICATION

Explain how the knowledge and insights gained on this internship will be of use to you in other areas of your life.

IV. ANALYSIS

Explain all of the components of your internship to provide a full description of its structure and operations. Explain why it is necessary to learn and be a part of all the functions you describe. Explain why you think the internship is structured this way.

V. SYNTHESIS

Select 2 areas of your internship that you feel could be improved. Develop a plan to incorporate the changes you feel would improve these areas.

VI. EVALUATION

Discuss why the changes you proposed in the synthesis section would be better than the existing practices at your internship. Now, reverse your argument and discuss why the existing practices at your internship would be better than the changes you proposed in the synthesis section.

VII. CONCLUSION

Discuss the merit of the organization you worked at as a worthwhile internship site. Briefly, include all of the above aspects in your summary.

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* ACTIVITIES YOU HAVE OBSERVED OR DIRECTLY PARTICIPATED IN AS PART OF YOUR INTERNSHIP SHOULD BE USED TO SUPPORT THE ITEMS YOU PRESENT IN YOUR ESSAY IN THE FOLLOWING WAYS:

- | | |
|-------------------|--|
| <u>FACTS-</u> | Provide reader with concrete details about what you are communicating. |
| <u>INCIDENTS-</u> | Help reader visualize your point by providing them with an image that demonstrates actual occurrences. |
| <u>REASONS-</u> | Strengthen what you are saying by providing "back-up" or justification for your viewpoints. |
| <u>EXAMPLES-</u> | Help clarify your points by providing similar or analogous points and experiences. |

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